



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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<b>(21) International Application Number:</b> PCT/CA99/01189 <b>(22) International Filing Date:</b> 15 December 1999 (15.12.99) <b>(30) Priority Data:</b> 09/210,995 15 December 1998 (15.12.98) US <b>(71) Applicant (for all designated States except US):</b> CONNAUGHT LABORATORIES LIMITED [CA/CA]; 1755 Steeles Avenue West, Toronto, Ontario M2R 3T4 (CA). <b>(71)(72) Applicants and Inventors:</b> LOOSMORE, Shirena, M. [CA/CA]; 70 Crawford Rose Drive, Aurora, Ontario L4G 4R4 (CA). YANG, Yan-Ping [CA/CA]; Apartment 709, 120 Torredale Avenue, Willowdale, Ontario M2R 3N7 (CA). KLEIN, Michel, H. [CA/CA]; 16 Munro Boulevard, Willowdale, Ontario M2P 1B9 (CA). <b>(74) Agent:</b> STEWART, Michael, I.; Sim & McBurney, 6th floor, 330 University Avenue, Toronto, Ontario M5G 1R7 (CA).	<b>(81) Designated States:</b> AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). <b>Published</b> <i>With international search report.</i> <b>(88) Date of publication of the international search report:</b> 26 October 2000 (26.10.00)	
<b>(54) Title:</b> MULTI-COMPONENT VACCINE COMPRISING AT LEAST TWO ANTIGENS FROM HAEMOPHILUS INFLUENZAE		
<b>(57) Abstract</b> <p>A multi-component immunogenic composition confers protection on an immunized host against infection caused by <i>Haemophilus influenzae</i>. Such composition comprises at least two different antigens of <i>Haemophilus influenzae</i>, one of which is an adhesin. High molecular weight (HMW) proteins of non-typeable <i>Haemophilus influenzae</i> enhance the immune response in a host to a non-proteolytic analog of Hn47 protein in such immunogenic compositions with one component not impairing the immunogenicity of the other. The <i>Haemophilus</i> vaccine may be combined with DTP component vaccines to provide a multi-valent component vaccine without impairment of the immunogenic properties of the other antigens.</p>		

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# INTERNATIONAL SEARCH REPORT

International Application No.  
PC1/CA 99/01189

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K39/102 A61K39/116 A61K39/295 A61P31/04

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

CHEM ABS Data, BIOSIS, WPI Data, EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	S. BARENKAMP: "Immunization with high-molecular weight adhesion proteins of nontypeable H. influenzae modifies experimental otitis media in chinchillas" INFECT. IMMUN., vol. 64, no. 4, 1996, pages 1246-1251, XP002142962	1-3
Y	Abstract, last sentence. Discussion, last paragraph.	4-26
X	S. LOOSMORE AT AL.: "The H. influenzae Htra protein is a protective antigen" INFECT. IMMUN., vol. 66, no. 3, 1998, pages 899-906, XP002142963	1-3
Y	Discussion, last paragraph.	4-26

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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A	WO 96 03506 A (CONNAUGHT LABORATORIES LED) 8 February 1996 (1996-02-08) page 6, line 29 -page 7, line 10 page 14, line 33 -page 15, line 14 -----	1-26

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